Indiana Department of Education
Academic Standards Course Framework

# EMERGENCY MEDICAL SERVICES

*Emergency Medical Services* prepares students for a State certification in Emergency Medical Services. This course is designed for persons desiring to perform emergency medical care. Students will learn to recognize the seriousness of a patient's condition, use the appropriate emergency care techniques and equipment to stabilize the patient, and transport them to the hospital.
This course also addresses the handling of victims of hazardous materials accidents. It covers theories, techniques, and operational aspects of pre-hospital emergency care with the scope and responsibility of the basic emergency medical technician. It requires laboratory practice and clinical observation in a hospital emergency room and ambulance. Participation in HOSA affords the student the opportunity to compete in a variety of competitive events, specifically CPR/First Aid and EMT, at both the state and national level.

- DOE Code: 5210
- Recommended Grade Level: Grade 12
- Recommended Prerequisites: Health Science Education I
- Credits: 2-3 credits per semester, maximum of 6 credits
- Counts as a Directed Elective or Elective for the General, Core 40, Core 40 with Academic Honors and Core 40 with Technical Honors diplomas
- Dual Credits:
    - IVY Tech:
        - PSAF120: First Responder
        - PARM 102: Emergency Medical Technician Basic Training
    - Vincennes:
        - EMTB 212: EMT Basic

**Dual Credit**
This course provides the opportunity for dual credit for students who meet postsecondary requirements for earning dual credit and successfully complete the dual credit requirements of this course.

**Application of Content and Multiple Hour Offerings**
Intensive laboratory applications are a component of this course and may be either school based or work based or a combination of the two. Work-based learning experiences should be in a closely related industry setting. Instructors shall have a standards-based training plan for students participating in work-based learning experiences. When a course is offered for multiple hours per semester, the amount of laboratory application or work-based learning needs to be increased proportionally.

**Career and Technical Student Organizations (CTSOs)**
Career and Technical Student Organizations are considered a powerful instructional tool when integrated into Career and Technical Education programs. They enhance the knowledge and skills students learn in a course by allowing a student to participate in a unique program of career and leadership development. Students should be encouraged to participate in SkillsUSA, the CTSO for this area.

## Content Standards

**Domain – Preparation for EMT**

**Core Standard 1** Students apply and adapt essential emergency procedures in a variety of settings to ensure patient safety.

**Standards**

EMS-1.1 Connect Emergency Medical Services (EMS) and know the roles, responsibilities and characteristics of the EMT-Basic

EMS-1.2 Connect the reactions EMT-Basic and family may experience when facing trauma, illness and death and ways to recognize and protect oneself

EMS-1.3 Analyze the EMT scope of practice in dealing with DNR (do not resuscitate), expressed and implied consent, duty to act, confidentiality, and other related issues

EMS-1.4 Verify topographic terms such as medial, lateral, proximal, distal, superior, inferior, anterior, posterior, midline, right and left, mid-clavicular, bilateral, mid-axillary and know anatomy and function of the following major body systems: respiratory, circulatory, musculoskeletal, nervous and endocrine

EMS-1.5 Verify the components of vital signs such as breathing, pulse rate, skin color, temperature, pupils, blood pressure and other vital signs

EMS-1.6 Evaluate the guidelines and safety precautions that need to be followed when lifting a patient and various patient carrying devices

EMS-1.7 Evaluate the components of vital signs such as breathing, pulse rate, skin color, temperature, pupils, blood pressure and other vital signs

**Domain – Respiratory Systems and Airways**

**Core Standard 2** Students evaluate a variety of breathing patterns and methods to determine ways to improve ventallation to a patient.

**Standards**

EMS-2.1 Establish the major structures of the respiratory system, signs of adequate and inadequate breathing, and multiple methods and techniques of improving breathing and ventilation

EMS-2.2 Select the following techniques including head-tilt chin lift, jaw thrust, suctioning, using a pocket mask and the bag-valve mask system, and a flow restricted, oxygen-powered ventilation device

EMS-2.3 Recommend the steps in performing the actions taken when providing mouth-to-mouth and mouth-to-stoma artificial ventilation

EMS-2.4 Verify how to measure and insert an oropharyngeal (oral) and nasopharyngeal (nasal) airway and the components of an oxygen deliver system

EMS 2.5 Choose a nonrebreather facemask and state the oxygen flow requirements needed for its use and indications for using a nasal cannula versus a nonrebreather facemask

EMS-2.6 Establish the rationale for basic life support artificial ventilation and airway protective skills taking priority over most other basic life support skills

**Domain – Patient Assessment**

**Core Standard 3** Students analyze communication strategies to inform a patient of assessment results from trauma.

**Standards**

EMS-3.1 Evaluate common hazards found at the scene of a trauma and a medical patient and how to evaluate the scene for safety and potential hazards

EMS-3.2 Integrate how to perform an initial assessment of an adult, child or infant patient

EMS-3.3 Verify the methods and rationale of conducting a rapid trauma assessment and a focused history and physical exam

EMS-3.4 Diagnose individuals with specific chief complaints with known and not known prior history, unresponsive patients, and patients with an altered mental status

EMS-3.5 Verify the areas of the body that are evaluated during a detailed physical exam of both a trauma and medical patient

EMS-3.6 Establish the reasons and demonstrate the skills for repeating the initial assessment as part of the on-going assessment

EMS-3.7 Verify various methods of communicating with a patient and about a patient's condition including radio communications and patient reports on the scene or at a facility

EMS-3.8 Verify the components and related issues of the written patient report including a pre-hospital care report, patient refusal, legal implications, EMS gathering systems and proper use of medical terminology

**Domain – General Pharmacology**

**Core Standard 4** Students evaluate various types of medicines to asses a patients medical needs.

**Standards**

EMS-4.1 Evaluate the medications with which the EMT-Basic may assist the patient with administering and know the generic names, medication forms and rationale for administering

EMS-4.2 Verify the structure and function of the respiratory system including signs, symptoms and emergency care of patients with breathing difficulties

EMS-4.3 Verify the structure and function of the cardiovascular system including signs, symptoms and emergency care of patients with various cardiac emergencies

EMS-4.4 Analyze and know the steps in the emergency medical care of the patient taking diabetic medicine with an altered mental status and a history of diabetes

EMS-4.5 Evaluate and know the emergency medical care of the patient with an allergic reaction

EMS-4.6 Analyze patients and know emergency medical care for the patient with possible overdose

EMS-4.7 Verify how to identify, assess and provide emergency medical care to a patient experiencing an environmental emergency

EMS-4.8 Verify how to identify, assess and provide emergency medical care to a patient with psychological, behavioral, and/or suicidal emergencies

EMS-4.9 Connect obstetrics and gynecology structures and techniques for providing emergency medical care in cases of delivery and birth

**Domain – EMT Basic and Trauma**

**Core Standard 5** Students apply concepts related to the human body to properly diagnose a patient who is exprienceing emergency trauma symptoms.

**Standards**

EMS-5.1 Connect the structure and function of the circulatory system and steps in the emergency medical care and transportation of the patient with shock and signs and symptoms of internal and/or external bleeding

EMS-5.2 Evaluate the major functions of the skin and the emergency medical care of a patient with open and closed soft tissue injuries, chest and abdomen injuries, amputations and

various burns

EMS-5.3 Analyze the functions of the muscular and skeletal systems and the emergency care of patients requiring splinting those with painful, swollen deformed extremities

EMS-5.4 Evaluate the functions of the nervous system and the emergency care and transportation of patients with spinal injuries

**Domain – EMT Basic and Infants, and Children**

**Core Standard 6** Students integrate knowledge of infant and children to determine the emergency procedures

**Standards**

EMS- 6.1 Establish the developmental considerations of infants, toddlers, pre-school, school age and adolescent children

EMS-6.2 Verify the cognitive, affective and psychomotor issues of emergency care of patients who are infants or children

**Domain – Ambulance Operation**

**Core Standard 7** Students apply and adapt the medical and non-medical equipment and operational procedures needed to transport a patient via an ambulance.

**Standards**

EMS-7.1 Apply and adapt the medical and non-medical equipment needed to respond to a call, laws related to ambulance operation, safety considerations, transportation of patients, cleaning, disinfection and sterilization, and the patient information report

EMS-7.2 Connect the fundamental components of extrication and patient access

EMS-7.3 Verify responsibilities and procedures, including triage, when responding to calls involving hazardous materials or conditions, multiple-causality situations, and disasters

**Domain – Hazardous Materials and EMS Responders**

**Core Standard 8** Students evaluate various potential hazardous situations to determine how to solve emergency problems as they arise.

**Standards**

EMS-8.1 Connect and meet the competencies for First Responder Awareness and Operations Levels as set forth by OSHA 1910.120 and NFPA 472

EMS-8.2 Manage a hazardous materials incident to determine the magnitude of the problem

EMS-8.3 Establish how to plan an initial response within the capabilities and competencies of available personnel, personal protective equipment, and control equipment

EMS-8.4 Verify how to implement the planned response to favorably change the outcomes consistent with the local emergency response plan and the organization's standard operating procedures

EMS-8.5 Verify how to evaluate the progress of the actions taken to ensure that the response objectives are being met safely, effectively, and efficiently

**Domain – Emergency Response to Terrorism**

**Core Standard 9** Students apply and adapt the necessary procedures to outline potential steps to prevent terrorist activity.

**Standards**

EMS-9.1 Select domestic and international terrorism per the current Department of Justice definition

EMS-9.2 Evaluate, through case histories, various types of potential incidents

EMS-9.3 Choose differences and similarities between responding to terrorist and non-terrorist incidents

EMS-9.4 Confirm suspicious circumstances which may indicate possible terrorism

EMS-9.5 Select the appropriate use of shielding at B-NICE incidents

EMS-9.6 Choose the use of time and distance as protective measures at B-NICE incidents

EMS-9.7 Choose the basic steps of emergency decon and routine post-exposure decon

EMS-9.8 Establish unique challenges that may confront responders when attempting to implement scene control

EMS-9.9 Connect what hazard and risk components influence public protection considerations

EMS-9.10 Recoomend what resources should be utilized to maintain perimeter security at a terrorist incident

EMS-9.11 Verify outward warning signs of B-NICE incidents

EMS-9.12 Establish and explain tactical considerations associated with acts of terrorism involving biological, nuclear, incendiary, chemical, and explosive materials

EMS-9.13 Select and list specialized equipment needed to support tactical operations involving B-NICE incidents

EMS-9.14 Givena case study, integrate tactical considerations for each incident category

EMS-9.15 Verify the authorities and responsibilities in Presidential Decision Directive 39

EMS-9.16 Analyze crime scene issues which must be addressed when managing an incident involving potential criminal activities

EMS-9.17 Select applicable resources referenced in the Federal Response Plan (FRP) and the FRP Terrorism Annex

EMS-9.18 Choose the preliminary indicators for transition from emergency phase to recovery and termination

EMS-9.19 Recommend unique debriefing and security issues

## Process Standards

**Common Core Literacy Standards for Technical Subjects**

**Reading Standards for Literacy in Technical Subjects 11-12**

The standards below begin at grade 11 and define what students should understand and be able to do by the end of grade 12. The CCR anchor standards and high school standards in literacy work in tandem to define college and career readiness expectations – the former providing broad standards, the latter providing additional specificity.

**Key Ideas and Details**

11-12.RT.1 Cite specific textual evidence to support analysis of technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

11-12.RT.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.

11-12.RT.3 Follow precisely a complex multistep procedure when performing technical tasks;

analyze the specific results based on explanations in the text.

**Craft and Structure**

11-12.RT.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific context relevant to *grades 11-12 texts and topics*.

11-12.RT.5 Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.

11-12.RT.6 Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved.

**Integration of Knowledge and Idea**

11-12.RT.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.

11-12.RT.8 Evaluate the hypotheses, data, analysis, and conclusions in a technical subject, verifying the data when possible and corroborating or challenging conclusions with other sources of information.

11-12.RT.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.

**Range of Reading and Level of Text Complexity**

11-12.RT.10 By the end of grade 12, read and comprehend technical texts in the grades 11-CCR text complexity band independently and proficiently.

**Writing Standards for Literacy in Technical Subjects 11-12**

The standards below begin at grade 11 and define what students should understand and be able to do by the end of grade 12. The CCR anchor standards and high school standards in literacy work in tandem to define college and career readiness expectations – the former providing broad standards, the latter providing additional specificity.

**Text Types and Purposes**

11-12.WT.1 Write arguments focused on *discipline-specific content*.

11-12.WT.2 Write informative/explanatory texts, including technical processes.

11-12.WT.3 Students will not write narratives in technical subjects. *Note: Students' narrative skills continue to grow in these grades. The Standards require that students be able to incorporate narrative elements effectively into arguments and informative/explanatory texts. In technical, students must be able to write precise enough descriptions of the step-by-step procedures they use in their technical work that others can replicate them and (possibly) reach the same results.*

**Production and Distribution of Writing**

11-12.WT.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

11-12.WT.5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

11-12.WT.6 Use technology, including the Internet, to produce, publish, and update individual or

shared writing products in response to ongoing feedback, including new arguments or information.

**Research to Build and Present Knowledge**

11-12.WT.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

11-12.WT.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectivity to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation

11-12.WT.9 Draw evidence from informational texts to support analysis, reflection, and research.

**Range of Writing**

11-12.WT.10 Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.